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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/526,350	09/13/2005	Yoshiaki Hirose	266983US0XPCT	3014

22850 7590 10/28/2010

OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER	
MILLER, DANIEL H	
ART UNIT	PAPER NUMBER
1783	

NOTIFICATION DATE	DELIVERY MODE
10/28/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com
oblonpat@oblon.com
jgardner@oblon.com

Office Action Summary	Application No.	Applicant(s)	
	10/526,350	HIROSE ET AL.	
	Examiner	Art Unit	
	DANIEL MILLER	1783	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 July 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,6-18 and 24-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,6-18,24-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/19/2010 has been entered.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, and 6-9, 10-18, and 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Olstowski (US 3,719,608).

3. Olstowski teaches providing an oxidation resistant expanded graphite article wherein oxidation resistance is provided with a solution that can contain a mixture comprising a phosphorous element and a boron element (see column 5 lines 40-55 and claim 1). The phosphorous element and a boron element can be phosphorous oxides and boron oxides as claimed (see column 5 lines 20-25). The particle size of the additives is at least 100 mesh and preferably less than 325 mesh (column 6 lines 35-45) within applicant's claimed range.

4. The graphite is compressed and heat treated to from 800 to 1200 degrees (see column 6 and examples).

5. It is noted that in page 4 of the instant specification, applicant defines a coating layer to include more than a distinct layer. "Forming a coating layer includes forming a so-called coating on a surface of a shaped expanded graphite article, forming the coating on a shaped expanded graphite article and at the same time incorporating (impregnating) a part of the coating into the shaped expanded graphite article, and incorporating (impregnating) the coating to a certain depth (including to a core) of the shaped expanded graphite article, all of which are defined as being within the scope of the idea of coating layer." The treated graphite of Olstowski incorporates particles into the graphite article making the entire graphite article part of the coated layer as claimed and defined in the instant specification. Since the graphite material is disclosed as having embodiments greater than 0.5 micrometers see examples) the coating layer is

considered to be greater than 0.5 micrometers as claimed. No patentable distinction is seen.

6. Regarding claim 1, Olstowski (US 3,719,608) teaches all the elements of claim 1 but does not appear to disclose the taught mass percentages of boron and phosphate.

7. It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the claimed percentages of boron (15 mass% or more) and phosphorus (2 mass% or more) including providing a greater concentration of boron than phosphorous by optimizing the oxidation resistant properties of the graphite article with mixture of boron and phosphorous additives. It has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

8. Applicant acknowledges that the reference teaches mixing the two oxidation resistant compounds (even if passingly as characterized by applicant). It is noted that even if it did not "(i)t is prima facie obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose.... [T]he idea of combining them flows logically from their having been individually taught in the prior art." In re Kerkhoven, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980). Applicant has not demonstrated any unexpected results in the taught compositional percentages.

9. No patentable distinction is seen.

10. Olstowski (US 3,719,608) teaches all the elements of claims 15-18, but is silent as to the boron and phosphorus elements being present before expanding the graphite, as required by claim 15.

11. It would have been obvious to one of ordinary skill in the art at the time of the invention to rearrange the steps of Olstowski and provide the additives in the graphite before expanding the graphite flakes with the expectation that no significant change to the properties of final product would be made. See In re Burhans, 154 F.2d 690, 69 USPQ 330 (CCPA 1946) (selection of any order of performing process steps is prima facie obvious in the absence of new or unexpected results); In re Gibson, 39 F.2d 975, 5 USPQ 230 (CCPA 1930) (Selection of any order of mixing ingredients is prima facie obvious). No patentable distinction is seen.

Response to Arguments

12. Applicant's arguments filed 7/19/201 have been fully considered but they are not persuasive.

13. Applicant has successfully amended and argued around the previously asserted 102 rejection. The previously asserted 102 rejection has been withdrawn.

14. Regarding independent claims, Olstowski (US 3,719,608) teaches all the elements of the claims but does not appear to disclose the taught mass percentages of boron and phosphate.

15. The examiner has provided an articulated reasoning for why it is obvious to provide the claimed invention. The Examiner has asserted that it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the claimed percentages of boron (15 mass% or more) and phosphorus (2 mass% or more) including providing a greater concentration of boron than phosphorous by optimizing the oxidation resistant properties of the graphite article with mixture of boron and phosphorous additives. It has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

16. No patentable distinction is seen. Applicant still has not fully addressed this rational for the rejection. Applicant points towards the examples in the specification as showing unexpected results however it is not clearly argued as to what is unexpected in the comparative examples and how it establishes that the combination is unexpected within the context of the art.

17. Applicant acknowledges that the reference teaches mixing the two oxidation resistant compounds (even if passingly as characterized by applicant). It is noted that even if it did not "(i)t is prima facie obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose.... [T]he idea of combining them

flows logically from their having been individually taught in the prior art." In re Kerkhoven, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980). Applicant has not demonstrated any unexpected results in the taught compositional percentages. Rejection maintained.

18. Applicant's amendment to independent claims requiring providing a coating is not considered to patentably distinguish between the cited art and the instant claimed invention.

19. Applicant has argued again that the reference does not teach a coating as claimed or does not teach a coating comprising the boron and phosphorous elements.

20. It is noted that in page 4 of the instant specification, applicant defines a coating layer to include more than a distinct layer. "Forming a coating layer includes forming a so-called coating on a surface of a shaped expanded graphite article, forming the coating on a shaped expanded graphite article and at the same time incorporating (impregnating) a part of the coating into the shaped expanded graphite article, and incorporating (impregnating) the coating to a certain depth (including to a core) of the shaped expanded graphite article, all of which are defined as being within the scope of the idea of coating layer." The solution treated graphite of Olstowski is considered a coated layer as claimed and defined in the specification; in the alternative, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide a coating process in order to protect the article from oxidation.

21. No patentable distinction is seen.

22. Rejection maintained. Applicant is invited to contact the examiner for clarification or to interview.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIEL MILLER whose telephone number is (571)272-1534. The examiner can normally be reached on M-Th.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Sample can be reached on (571)272-1376. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David R. Sample/
Supervisory Patent Examiner, Art Unit 1783

Daniel Miller